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Case review

Multiple injuries in suicide simulating homicide: Report of three cases

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ABSTRACT

Multiple inflicted injuries in traumatic deaths usually indicate homicide. Three cases are reported where homicide was initially suspected due to findings at the death scene and the apparent nature of the injuries however, after investigation, involvement of any other individuals in the deaths could be excluded. *Case 1*: A 52-year-old male was found with multiple stab wounds. At autopsy, 36 stab wounds were identified, the majority of which were superficial. Only two stab wounds had penetrated deeply. *Case 2*: A 19-year-old female was found with three gunshot entry wounds to the right temple and a .22 calibre automatic rifle resting across her lap. *Case 3*: A 47-year-old female was found with numerous haematomas and three deep head wounds in keeping with trauma from impact with a blunt object. A high level of clozapine was detected on toxicological analysis of blood and a history of schizophrenia was reported. Although multiple self-inflicted wounds are most often caused by sharp objects such as knives, on occasion multiple gunshot wounds and rarely, blunt trauma may also be encountered. Careful integration of scene and autopsy findings may be required to avoid misinterpretation of the circumstances and manner of death.

1. Introduction

Suicide, or the deliberate act of killing oneself, accounts for a substantial number of unnatural deaths in many communities.[1] The methods utilized to self-harm vary considerably depending on the country or the particular community studied.[2] For example, suicide in South Australia most often involves hanging, carbon monoxide poisoning and drug overdose,[3] in contrast to blunt force trauma, sharp force injuries and gunshot wounds in homicide.[4] Multiple methods of self-destruction may also be used, but are generally less common.[5,6] The forensic investigation of suicides includes the study of injury patterns and autopsy features in order to identify or confirm the material/s or device/s that inflicted the injuries, to establish the mechanism of death, and to determine whether the findings are plausible and consistent with self-infliction.[7–9]

The evaluation of possible suicides is not however, always straightforward, and may be complicated by atypical death scene and autopsy findings. The following study was undertaken to demonstrate a series of suicidal deaths where the initial consideration was of possible homicide.

2. Materials and methods

Retrospective review of pathology files of suicides was undertaken for cases that were initially considered to be homicides at Forensic Science South Australia (Forensic Science SA) in Adelaide, Australia and at the Institute of Legal Medicine and Forensic Sciences in Berlin, Germany. Each case had been the subject of full police and medicolegal investigations, with formal autopsy examination including toxicological analyses. Background information including clinical, social and family histories was also reviewed.

3. Case reports

3.1. Case 1

A 52-year-old male was found lying in his underwear on the laundry floor at his home address with multiple stab wounds. There

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was extensive blood-staining of the floor and furniture, and two bloodied knifes were found placed in the laundry sink. The case was treated as a suspicious death.

At autopsy, there were multiple stab wounds to the chest and abdomen, as well as incised wounds to the neck and left arm, with smearing of blood over the face, neck, chest, arms, soles of feet and legs. Twenty-four mainly superficial incised and stab wounds were present in the anterior lower chest and abdomen (Fig. 1). There were also nine superficial incised wounds to the right side of the neck (Fig. 2), one gaping incised wound to the left side of the neck with surrounding small superficial wounds, and two deep incised wounds to the anterior aspect of the left forearm. The wounds were predominately clustered, horizontal and/or parallel. Internal examination revealed stab wounds to the liver, stomach, small intestine, mesentery and retroperitoneum. Only two of the deeper stab wounds to the abdomen which had penetrated the liver were lethal. There were no injuries to bone. Toxicological evaluation revealed no alcohol or common drugs. There were no underlying organic diseases identified that could have caused or contributed to death. Death was attributed to stab wounds to the abdomen. Given that there was no evidence of scene disturbance or assault, that the clothing had not been penetrated and that there were 'hesitation' marks adjacent to some of the stab wounds (Fig. 3), the injuries were considered to be self-inflicted. All wounds appeared to be contemporaneous.

3.2. Case 2

A 19-year-old female was found lying fully clothed and supine across a bed at an acquaintance's home address. The decedent's left lower eyelid was bruised, and an amount of coagulated blood was evident in the hair and over the bedspread beneath her head. A possible gunshot entry wound was noted in the right temple, and a .22 calibre automatic rifle was resting across her lap with the barrel of the weapon in her left hand. As there were signs of forced entry into the premises including a hole in a rear door with several spent cartridges near the deceased, the case was treated as a suspicious death.

X-rays of the head performed prior to autopsy examination showed numerous small projectile fragments within the brain. Autopsy revealed three closely spaced contact gunshot entry wounds positioned in the right temple (Fig. 4), above a bi-lobed and internally beveled entry defect with associated skull fractures and cerebral lacerations. The three projectiles had followed a similar course through the skull and brain, exiting through the left temple. A deformed projectile fragment was found imbedded in the left temporalis muscle. There were no other recent injuries present. Toxicological analyses of blood detected amphetamines and low levels of cannabinoids, with no alcohol or other common drugs. Death was attributed to gunshot wounds to the head. Given that there was no evidence of assault and that the rifle was an automatic weapon capable of rapid fire, the injuries were considered to be self-inflicted. Gunshot residue was also present on the decedent's hand and the damage to the rear door of the premises was thought by police to have been inflicted by the decedent.

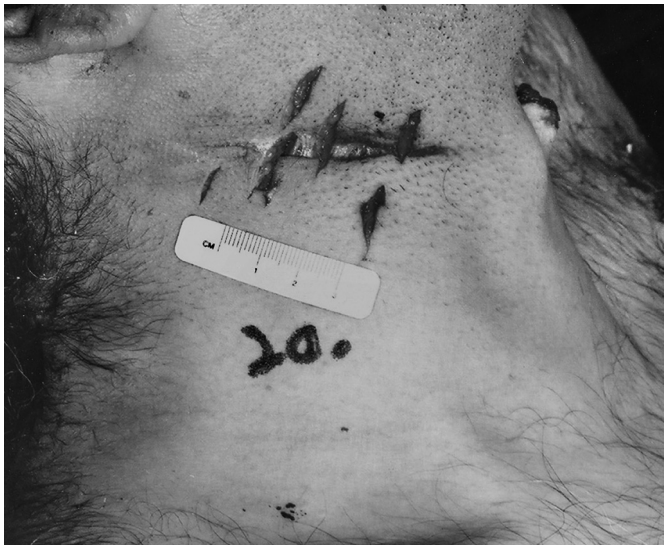

Fig. 2. Superficial incised wounds to the right side of the neck in case 1 running at right angles, typical of self inflicted wounds.

3.3. Case 3

A 47-year-old female was found lying unclothed on the kitchen floor at her home address. There was extensive blood-staining of

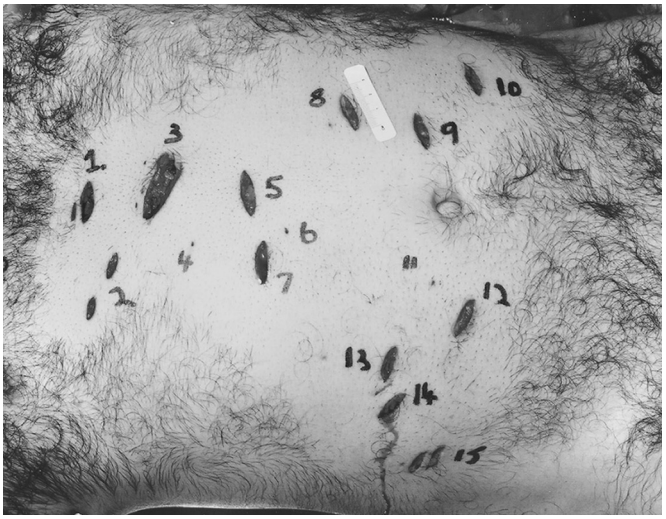

Fig. 1. Multiple predominantly superficial stab wounds to the abdomen, all running along approximately the same axis, in case 1.

Fig. 3. Approximating wound edges in case 1 with small hesitation wounds adjacent to stab wound 3.

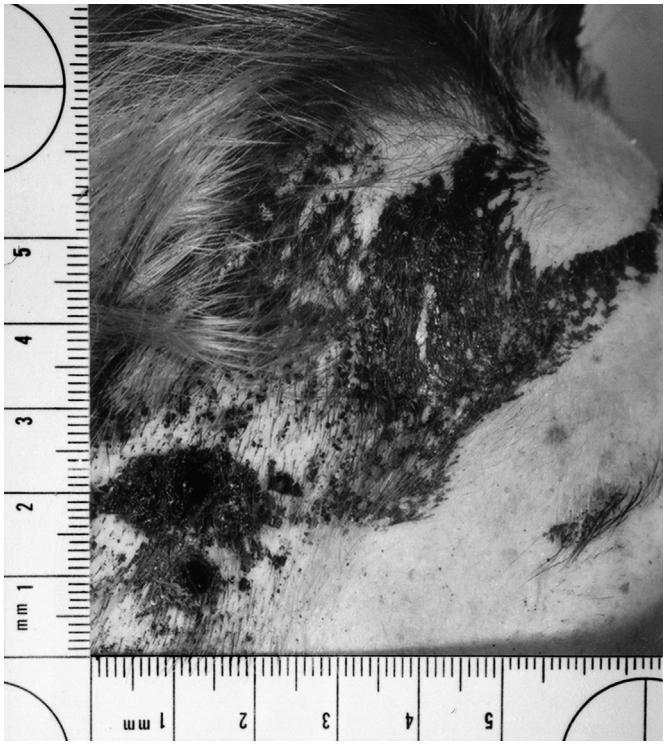

Fig. 4. A cluster of three entrance gunshot wounds to the right temple in case 2.

the floor and furniture (Fig. 5), with fifty empty blister packs of clozapine in the kitchen sink. As multiple injuries were also present (Fig. 6) the death was considered to be a possible homicide.

At autopsy, there were numerous skin and soft tissue haematomas, with three deep head wounds in keeping with trauma from impact with a blunt object (Fig. 7). Toxicological analyses of blood detected a lethal level of clozapine with no alcohol or other common drugs (although, postmortem redistribution of clozapine is recognized as a potential confounding factor in such measurements). No underlying organic diseases were identified that could have caused or contributed to death. Death was attributed to the combined effects of clozapine toxicity and haemorrhage due to blunt cranial trauma. Further investigations at the scene revealed

Fig. 5. Extensive blood staining of fixed kitchen furniture in case 3 following impact with the decedent's head.

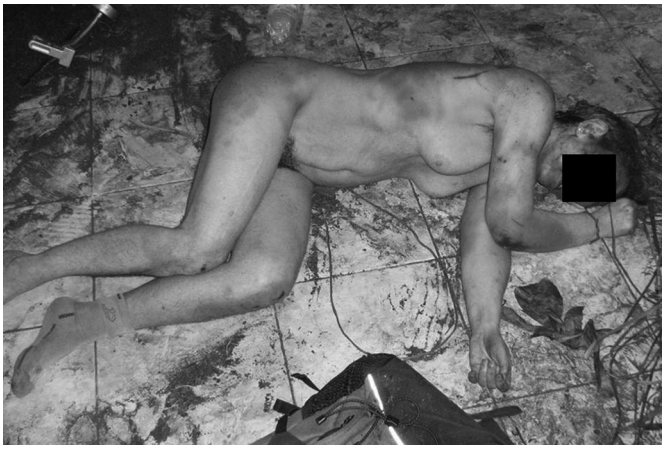

Fig. 6. The position of the deceased at the death scene in case 3 showing widespread bruising.

blood-staining of kitchen furniture consistent with impact with the decedent's head. There was also a history of a previous suicide attempt by overdose and a history of schizophrenia. Given that there was no sign of forced entry, that blood-staining was on pieces of fixed furniture, the history of psychiatric illness and a high level of clozapine, the injuries were considered to be self-inflicted.

4. Discussion

All three of the reported cases had unusual findings which raised suspicions of homicide. The cases were selected to demonstrate that multiple self-inflicted wounds are not however, always caused by sharp objects such as knives (as in case 1) but may involve gunshot wounds (case 2) and rarely, blunt trauma (case 3). Despite any initial impressions of a suspicious death, pathological evidence gained from autopsy may clarify whether a particular wound was self-inflicted or not. For example, self-inflicted wounds tend to be in readily accessible regions of the body such as the anterior chest, abdomen, neck, arms and legs (as in case 1).[10,11] Sensitive areas such as the eyes, lips, nipples and genitalia are often spared,[12] as well as underlying bones. The infrequency of skeletal trauma in suicidal deaths relates to victims avoiding solid anatomic structures such as the ribs and sternum, compared to

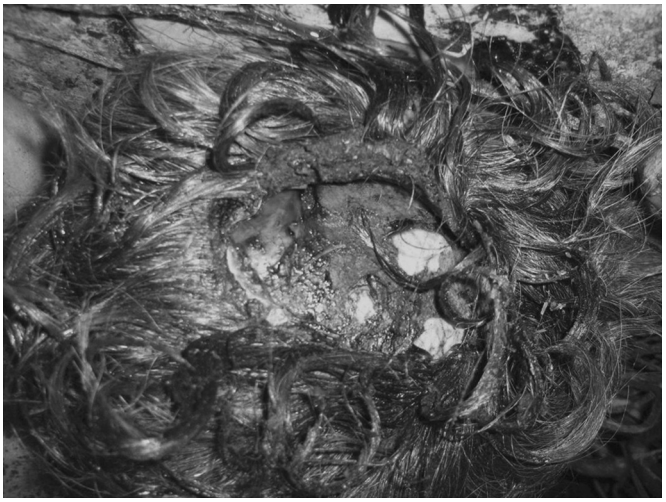

Fig. 7. A deep scalp laceration in case 3.

homicide victims who usually have minimal control over the site of injury.[13] Wounds to the back suggest homicide rather than suicide,[10,13,14] with none of our victims having this.

There may also be a relationship between wound localization and a victim's handedness, with self-inflicted sharp force injuries typically located on the side opposite to the dominant hand,[12] whereas cases of suicidal gunshot wounds are typically located on the side of the dominant hand (as in case 2). In addition, suicidal stab wounds are not usually through clothing.[10,15]

While a large number of wounds usually suggest the involvement of another person, this may not always be the case. For example, of the 36 wounds in case 1, most were superficial and only two penetrated deeply into vital structures. Self-inflicted incisions also tend to be grouped and parallel, contrasting with inflicted wounds from an assailant that are often irregular, nonparallel and of variable depths.[12,16] Hesitation wounds are also typical, and a transverse orientation and similar angle of injuries are also more characteristic of suicide. Vertically orientated wounds are rarely encountered in suicide victims[13,15,17] as this relates to the way an individual is accustomed to holding a knife.

Contact gunshot entry wounds are usual in suicidal firearm deaths[18,19] and in South Australia, are most often single given that fully- and semi-automatic weapons are uncommon. Thus, when multiple gunshot wounds are encountered in this community, the possibility of homicide is seriously considered. In case 2, the close grouping of the entry wounds from a fully-automatic rifle was consistent with self-infliction, as automatic weapons will fire multiple shots in a quick succession with a single trigger pull. The weapons deployed in documented multiple wound cases are often military rifles, set on automatic mode.[20,21]

Case 3 illustrates an unusual event with self-inflicted blunt force injuries. Although these initially raised suspicions of homicide, the pattern was not typical of assault with sparing of the face, mouth and hands. In addition, the history of a serious psychotic disorder with drug overdose was more in keeping with self-infliction by battering against kitchen furniture. Thus, although blunt force injuries are more typical of homicides (excluding suicidal falls from heights) rare suicides may utilize this method, resulting in multiple injuries.

While excessive injuries raise the possibility of overkill homicides and have also been reported in cases of matricide,[22,23] (with one report of a victim having 177 stab wounds[22]) meticulous analyses of the scene and autopsy features are necessary to accurately determine the correct manner of death. Antecedent psychiatric history was useful in the evaluation of one of the reported cases although, no psychiatric history was found in the other two. The reasons for the infliction of multiple injuries in suicide are unclear. The possibility of a simple failure to inflict a single lethal injury may explain some cases of multiple self-stabbings. Alternatively, a desire for self-punishment may account for others. Multiple gunshot injuries relate more to the use of automatic weapons and the motivations for this type of event may be not be the same as other cases where each wound requires a separate action. Finally, although the findings of multiple sharp or blunt wounds suggest homicide, careful assessment of such cases is required to avoid misinterpretation of the circumstances and manners of death.

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Conflict of interest
None.

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